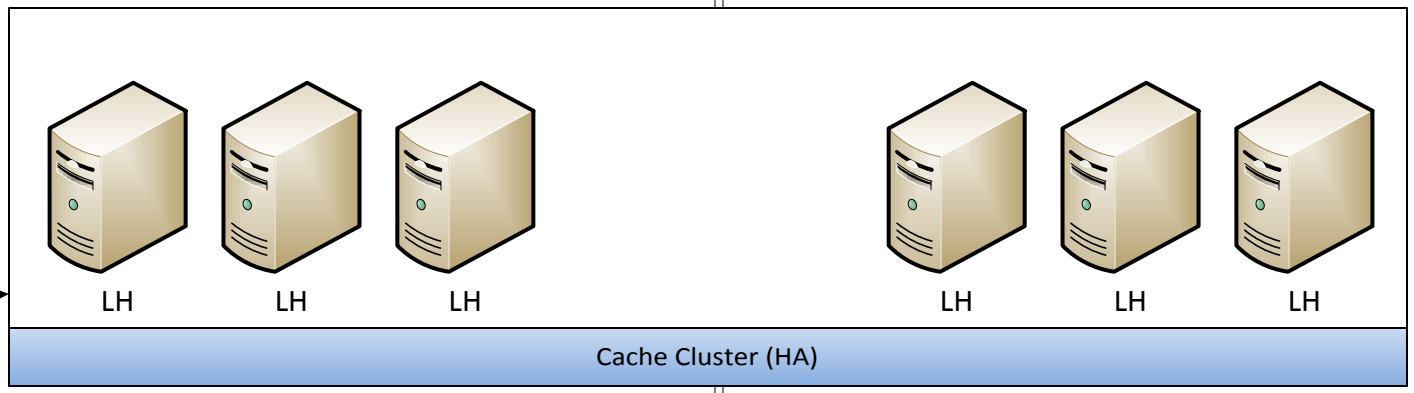
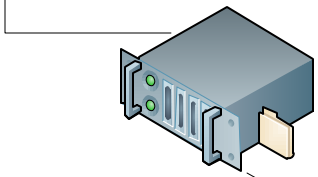
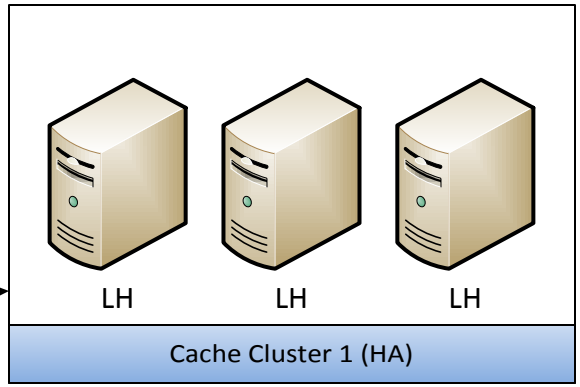


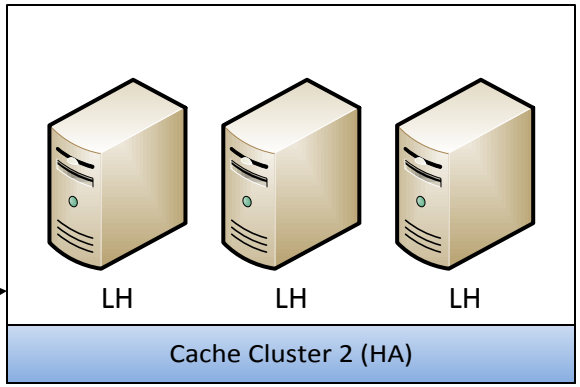


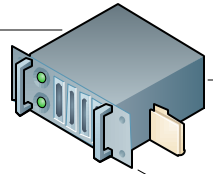
Role-
AppFabric Config File Server

Note:
This topology (configuration) is not be possible because if primary site goes down it will bring down 3 Lead Hosts which will bring down the whole cluster. This is because a cluster cannot work if majority of Lead Hosts fails.

LH = Lead Host
HA = High Availability







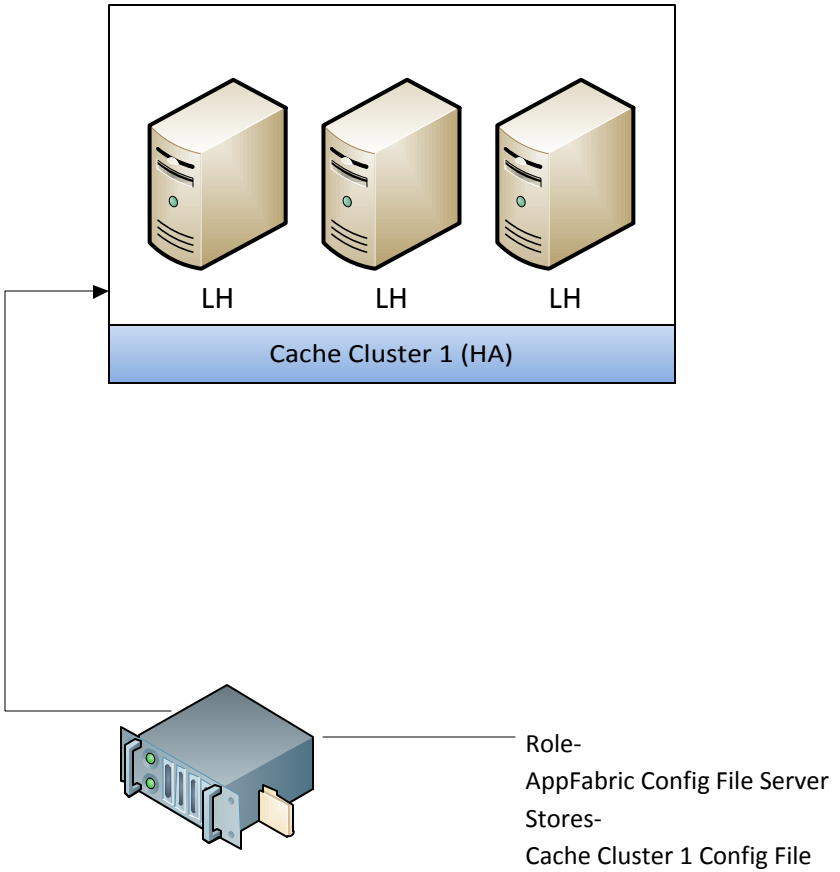
Role-
AppFabric Config File Server
Stores-
Cache Cluster 1 Config File
Cache Cluster 2 Config File

Note:
Caveat:
1. You cannot configure Cache Cluster 2 if primary site (or File Server) goes down.

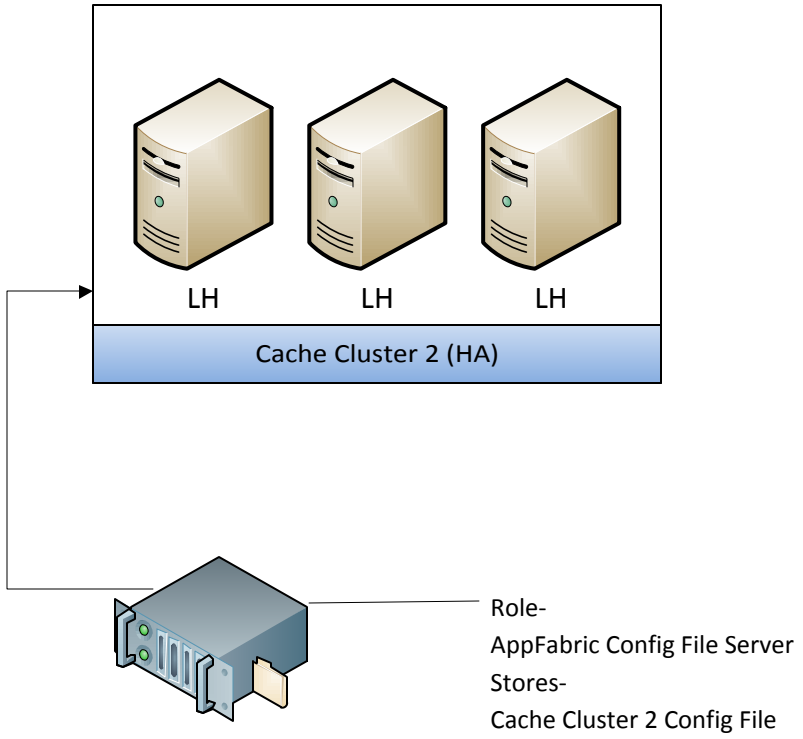
Note:
Case 1: Primary Site Down-
Cache Cluster 2 will carry on working with complete data as clusters are independent and contains full data always. Also, when using UNC as configuration store AppFabric hosts carry on working unless you want to change the configuration or host is restarted.

Case 2: Secondary Site Down-
Cache Cluster 1 will carry on working with complete data as clusters are independent and contains full data always. UNC is also on primary site so you will be able to change configuration in this case and host restart should not cause issues as well.

LH = Lead Host
HA = High Availability



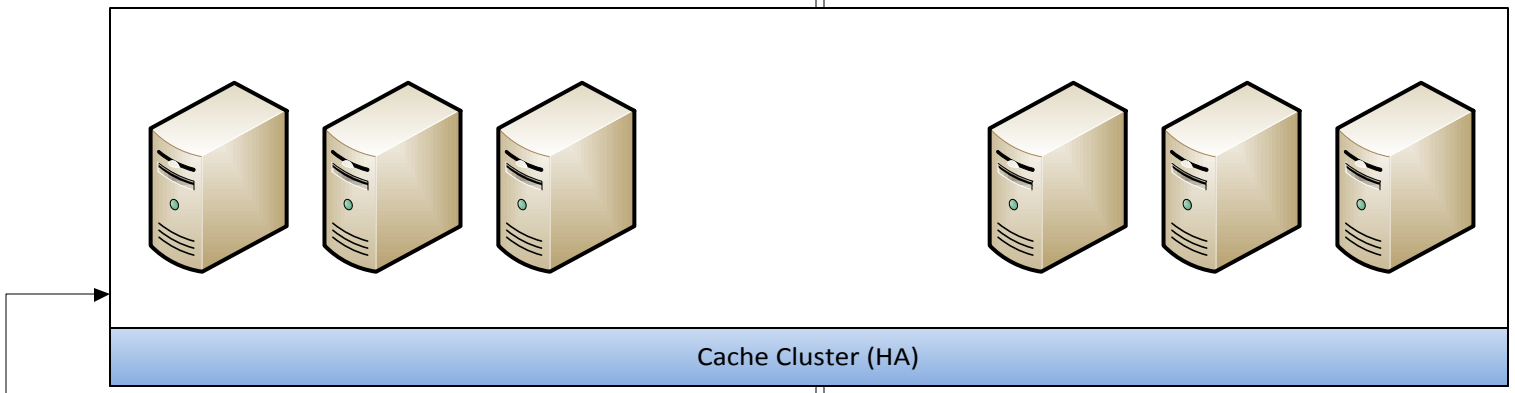
Note:
Caveat:
1. Cache hosts also work as Lead Hosts and thus do dual work all the time. This is not the case if we use SQL server.

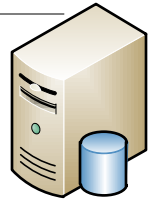


Note:
Case 1: Primary Site Down-
Cache Cluster 2 will carry on working with complete data as clusters are independent and contains full data always. Secondary site has its own dedicated UNC so you will be able to change configuration in this case and host restart should not cause issues as well.

Case 2: Secondary Site Down-
Cache Cluster 1 will carry on working with complete data as clusters are independent and contains full data always. UNC is also on primary site so you will be able to change configuration in this case and host restart should not cause issues as well.

LH = Lead Host
HA = High Availability



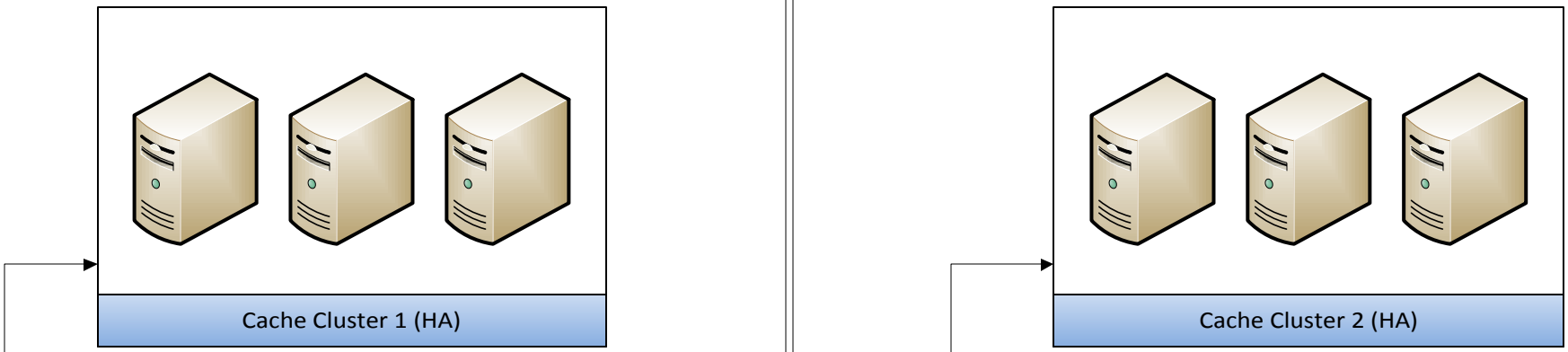


SQL Server 1

Role-
AppFabric Config Server
AppFabric Management Server

Note:
This topology (configuration) is not be possible because if primary site goes down it will bring down the whole cluster. This is because a cluster cannot work if SQL server is not available for more than 60 seconds. This settings is configurable but not recommended by Microsoft.

LH = Lead Host
HA = High Availability

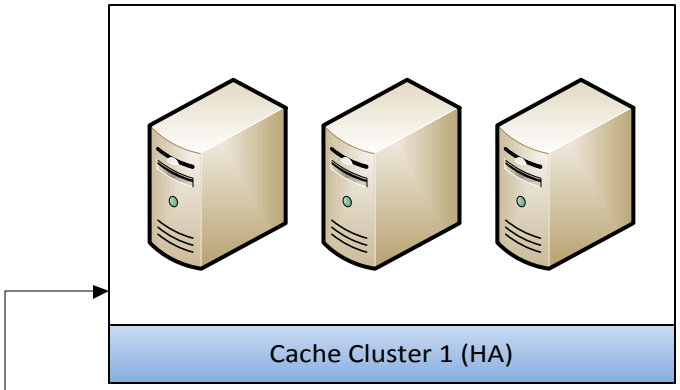


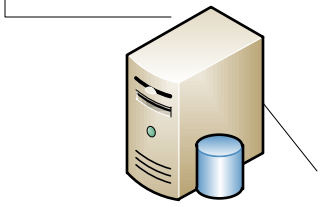
SQL Server 1

Role-
AppFabric Config Server
AppFabric Management Server

Note:
This topology (configuration) is not be possible because if primary site goes down it will bring down the whole cluster. This is because a cluster cannot work if SQL server is not available for more than 60 seconds. This settings is configurable but not recommended by Microsoft.

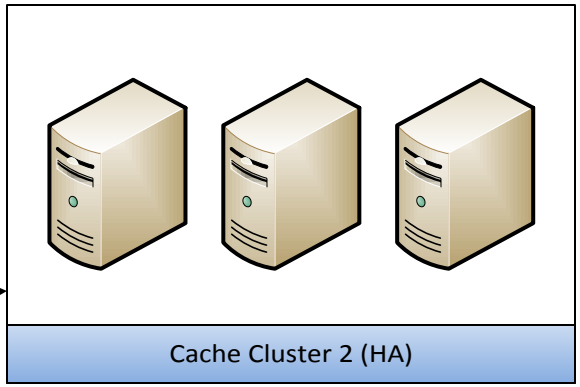
LH = Lead Host
HA = High Availability

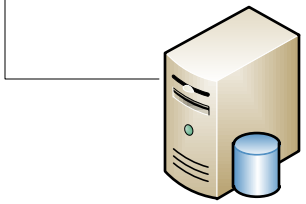




SQL Server 1

Role-
AppFabric Config Server (Cache Cluster 1)
AppFabric Management Server





SQL Server 2

Role-
AppFabric Config Server (Cache Cluster 2)
AppFabric Management Server

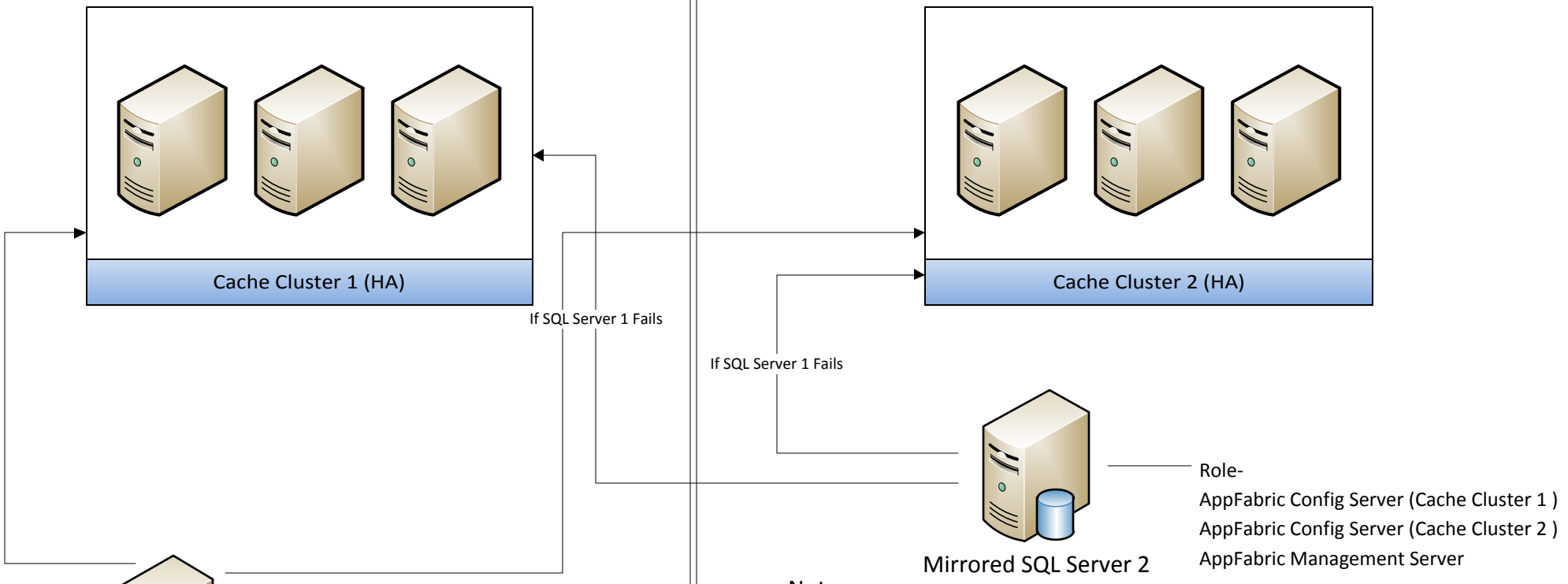
Note:

Case 1: Primary Site Down-
Cache Cluster 2 will carry on working with complete data as clusters are independent and contains full data always. Secondary site has its own dedicated SQL Server so you will be able to change configuration in this case and host restart should not cause issues as well.

Case 2: Secondary Site Down-
Cache Cluster 1 will carry on working with complete data as clusters are independent and contains full data always. SQL Server is also present on primary site so you will be able to change configuration in this case and host restart should not cause issues as well.

SQL Server nodes are NOT MIRRORED so if SQL Server 1 goes down it will bring down Cache Cluster 1 as well.

LH = Lead Host
HA = High Availability



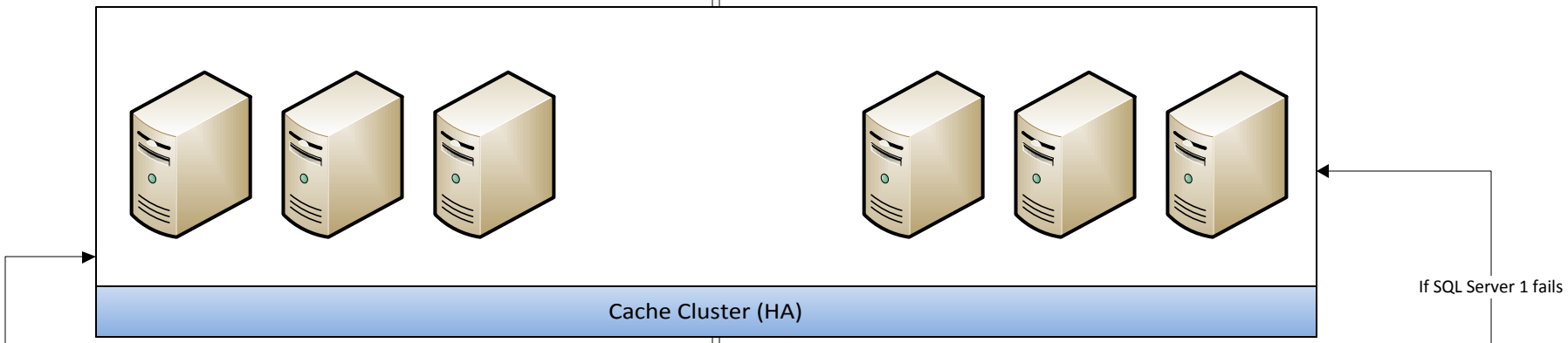
Note:
Caveat:
1. Data is duplicated between primary and secondary site. We may not need to make cache/region HA in this case. Not really an issue if you were thinking of making your cache HA anyways.

Note:
Case 1: Primary Site Down-
Cache Cluster 2 will carry on working with complete data as clusters are independent and contains full data always. Secondary site has a mirrored SQL Server so you will be able to change configuration in this case and host restart should not cause issues as well. Cache clusters will failover to mirrored SQL server for configuration.

Case 2: Secondary Site Down-
Cache Cluster 1 will carry on working with complete data as clusters are independent and contains full data always. SQL Server is present on primary site so you will be able to change configuration in this case and host restart should not cause issues as well.

SQL Server nodes are MIRRORED.

LH = Lead Host
HA = High Availability



Note:
Caveat:
1. When cluster is working with full capacity, client requests will still go cross site. This can add to the response time.

2. When cluster is working with half capacity (one of the sites go down), cluster will not have complete set of data. This will trigger Cache-Aside pattern into play.

Note:
Case 1: Primary Site Down-
Cache Cluster will carry on working with incomplete data as we would not know if replicated data is divided evenly across sites. Secondary site has a SQL Server so you will be able to change configuration in this case and host restart should not cause issues as well.

Case 2: Secondary Site Down-
Cache Cluster will carry on working with incomplete data as we would not know if replicated data is divided evenly across sites. Primary site has a SQL Server so you will be able to change configuration in this case and host restart should not cause issues as well.

SQL Server nodes are MIRRORED so if SQL Server 1 goes down it will force Cache Cluster to switch to SQL Server 2 for configuration.

LH = Lead Host
HA = High Availability